

# N-terminal truncated telomerase

M P R A P R C R A V R S L L R S H T R E V L P L A T P V R R L G P Q G W R L V Q R G D P A A P R A L V A Q C L V C V P W D A R P P P A A S F R Q V S C L K B L V A R V L Q R L C E R G A K H V L A F G F A L L D G A R CONSISTENCIA CON TRANSPORMENTA CON CONTRACTOR CONTRACTO G G P P R A F T T S V R S Y L P H T V T D A L R G S G A W G L L L R R V G D D V CONCURRENCE DE CONCUR LVBLLARCAL PVLVAPSCAYQVCGPPLYQLGAATQARPPP HASGPRRLGCERAWHESVRBAGVPLGLPAPGARRGGSA CAGCCCAAGTCTGCCCCTAGAGAGGCCCAGGCGTGCCCCTTGAGCCGAGGCCGAGGCCGGTGGGCAGGGCCGGGAGGACCGAAGTGACCGAAGTGACCG SRSLPLPRRPRRGAAPSPERTPVGQGSWAHPGRTRGPSDR G P C V V S P A R P A E E A T S L E G A L S G T R E S E P S V G R Q E H A G P P TSRPPRPWDTPCPPVYAETKHPLYSSGDKEQLRPSFLLS creates a secretaria con establishment and the secretaria construction of the secretaria coANTECCCCCCTGTTTCTGGAGCTGCTTGGGAACCACGCGCAGTGCCCCTACGCGGTGCTCTTCAAGACGCACTGCCGGTCCCGGTCACCCCGAGCAGCCGGTGTCTGTGCCCG MRPLPLELGNHAQCPYGYLLKTHCPLRAAVTPAAGVCAR GENERANGE CELEGAGGE CECCEGAGGAGGAGGACA CAGACTECT CONTROL CONTR R P Q G S V A A P Z Z Z D T D P R R L V Q L L R Q R S S P W Q V Y G P V R A C GACGTGGAAGATGAGCGTGCGGGACTGCGCTTGGCTGCGCAGAGCCCAAGGTGGCTTTGCTGCGCGAGAACACCGCGTGAGGAGAAGATCCTGGCCAAGTTCCTGCACTGCC T M K M S V R D C A W L R R S P G V S C V P A A E H R L R E E I L A R P L H M L CATGGGTGGACGTGGCCCTGGGGCATGGCCTTTCTGCGTGGTGCCGTGGGTGCCCTGACGCCCTCACTGAGTCGGTGGGGGC GCTGAGCAAGCCTCCTGAGGGGGCTCTCTATTG\_



#### Truncated protein 1

M P R A P R C R A V R S L L R S H T R E V L P L A T F coscercos coscR R L G P Q G W R L V Q R G D P A A P R A L V A Q C L V C V P W D A R P P P A A CCCCTCCTTCCCCCAGGIGTCCTCCCTCAAGGACCTGGTGCCCCGAGTGCTGCAGAGCCTGTCCGAGCCCGGCGGGAAGAACGTGCTGGCCTTCGCCTTCGCCTGCACGGGCCCCG PSPRQVSCLKELVARVLQZLCBRGAKNVLAPGPALLDGAR  ${\color{blue} \textbf{cossesses}} \textbf{cossesses} \textbf{coss$ G G P B A F T T S V R S Y L P S T V T D A L R G S G A W G L L R R V G D D H L L A E C A L P V L V A P S C A Y Q V C G P P L Y Q L G A A T Q A R P P P EASGPRERLGCERANNESVERAGVPLGLPAPGARRGGSA KRPRRGAPEPZZTPVGQGSWAHPGETRGPSDR G P C V V S P A R P A E S A T S L B S A L S G T R S S H P S V G R Q H H A G P P STSRPPRPWDTPCPPYYAZTKHPLYSGDKEQLRPSPLLS CTCTCTGAGCCCCAGCCTGACTGGGGGCTCGGGGGGCCGAGACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTGCCCCGCCGCCGCCGCCTACTGGCA S L R P S L T G A R R L V Z T I P L G S R P W M P G T P R R L P R L P Q R Y W Q ANTICOGGCCCCTGTTTCTGGAGCTGCTTCGGAACCACGCCGCAGTGCCCCTACGGGTGACCCCAAGACGCACCCCGGTGCCGAGCAGCCCGGTGTCTGTGCCCGG MRPLPLELLGNHAQCPY3722KTHCPLRAAVTPAAGV CARVED Y V D W G Z Z C D V Z R R C T C Z Z Z G K A V Z D G K X B CONSCISCOSCI I R Q H L K R V Q L R E L S S A S V R D H R E A R P A L L T S R L R P GTGGCTGTGGTTTAACTTCCTTTTTAACCAGAA AVLWFTFLFNQK COGCCTOCCCCCATTOTGAACATCGACTACGTCGTCGTCGCACGAGCGTTCCCCACAAAACAGGGG L R P I V N M D Y V V G A R T P R R R R R R NGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCACTGTTCAGCGTGCTCAACTACGA



### Truncated protein 2

мтесоессестессенествессинесситествествессинетуссвенноствессинествессинентуско MPRAPRCRAVESLLRSHAREVLPLATPV R R L G P Q G W R L V Q R G D P A A P R A L V A Q C L V C V P W D A R P P P A A PSPRQVSCLEELVARVLQRLCERGARNVLAPGPALLDGAR G G P P E A P T T S V Z S Y L P E T V T D A L R G S G A W G L L L R R V G D D V GETTEUTTEACTION CONCENTRATION OF THE PROPERTY LVHLLARCALFVLVAPSCAYQVCGPPLYQLGAATQARPF ACACCETACTOCALCOCCUTACTOCCATACTOCCATACCCATACCCATACCCATACCCATACCCATACCCCTTCCCATACCCATACATACACATAC E A S G P R R R G C E R A W H H S V R E A G V P L G L P A P G A R R R G G S A CLECCULARITETECCE LAGRECCE LEGGE TO CONTROL CO S R S L P L P K R P R R G A A P E P E R T P V G Q G S W A E P G R T R G P S D R G P C V V S P A R P A R R A T S L R G A L S G T R H S H P S V G R Q H H A G P PRPWDTPCPPVYAETKHFLYSSGDKEQLRPSFLLS CTCTCTGAGGCCCAGCCTGACTGGGGGCCTCGGGAGGCCTGGGAGACCATCTTTCTGGGTTTCTGGGTTTCCAGGCCCAGGATGCCCAGGGTTGCCCCGGCGTGCCCCAGGCTACTGGCA S L R P S L T G A R R L V R T I P L G S R P N M P G T P R R L P R L P Q R Y N Q CETGESCESGETGSTGCCCCCAGGCCTCTGGGGCTCCAGGCACAACGAACGCCCCCCTCTTCCTCAGGAACATCCATGCCTGGGGAAGCATGCCAAGCTCTGGCAGGAGCT LRRLVFFGLWGSAHNZAAFLANTKKFISLGKHAKLGLGEL  $\frac{1}{2}$ T M K M S V R D C A M L R R S P G V D C V P A A E H R L R E E I L A K P L H M L CATCACTOTOTACCTCCTCCACCTCCTCCACCTCTTTTATCTCACCGACCCCCCTTTCAAAACAACACCCCCTTTTTCTACCCCAACACTCTCTCCAACCACTTCCAAACCATTCC Y Y Y E L R S P F Y Y T E T T F Q K Y R L P F Y R K S Y W S K L Q S I G I R Q H L K R V Q L R S L S S A S V R Q H R E A R P A L L T S R L R P I P K P CONCETTS OF THE CONCENTRATION G L R F I V N N D Y V V G A R T F R Z S K Z A Z R L T S R V K A L F S V L N Y Z RARRPGLEGASVEGLODIBRANRTPVLRVRAQDPPPSLYP CANCECCOCCCATOGGCACGTCCCCCAAGGCCTTTCAAGAGCCAC KAAHGHYRKAPKSH GTCCTACGTCCAGTG LRP  ${\tt ceasessate} {\tt ceases} {\tt ce$ 

FIG. 11C

PGDPAGLEPLHAALQPVLRRGSQAVCGDSAGRAAP

TEATTTCTTGTTGGTGACACCTCACCCCACGCGAAAACCTTCCTCAGGACCCTGGTCGGGGGTGTAGCTGTGGTGAACTTGCGGAAACATGGGTGAACTTCCC



### Truncated protein 3

MPRAPRORAVRSLLRSEXREVLPLATE  ${\tt cscocctscocctscocctscocctscocctscoccctscocc$ R R L G P Q G W R L V Q R G D P A A P R A L V A Q C L V C V P W D A R P P P A A CCCCTCCTTCCCCAGGTGTCCTCCAAAGGAGCTGGTGGCCCGAGTGCTGCAAAGGCTGTGCGAACGACGCCGCAAAAAAGTGCTGGCCTTCGGCTTGGGCTGGACGGGGCCCG S F R Q V S C L K B L V A R V L Q R L C B R G A K N V L A F G F A L L D G A R G G P P B A F T T S V R S Y L P N T V T D A L R G S G A N G L L R R V G D D V LVHLLARCALPVLVAPSCATQVCGPPLYQLGAATQARPPP HASGPRRELGCERAWN HSVERAGVPLGLPAPGARRGGSA S R S L P L P K R P R R G A A P E P E R T P V G Q G S W A R P G R T R G P S D R G P C V V S P A R P A E E A T S L E G A L S G T R H S H P S V G R Q H H A G P P STSRPPRPWDTPCPPVYABTKHFLYSSGDKZQLRPSPLLS CTCTCTGACGCCCACCTGACTGCCCCTGGAGACCCATCTTTCTCGGT.TCCACGCCCTGGATGCCCACGGACTCCCCGCCACGTTGCCCCCGCCGCCCCACGCTACTGCCA S L R P S L T G A R R L V Z T I P L G S R P W M P G T P R R L P R L P Q R Y M Q ANTICOGCCCCTGTTTCTGGACCTGCTTGGGAACCACGCCACATGCCCCCTACGGGGTTCTCTCAACACGCCGCTGCCGCCGCTCACCCGGTCACCCCGGTGTCTGTGCCCG MRPLPLELLGHHAQCPYGYLLKTHCPLRAAVTPAAGVCAR AATEAGACAGENETTGAAGAGGGTGEAGCTGCGGGAGCTGTCGGAAGCAGAGGTEAGGCAGCATCGGGAAGCCCGGCCTGGCTGACGTCCAGACTCCAGACTCCCAAGCCTGA I R Q H L K R V Q L R E L S E A E V R Q H R E A R P A L L T S R L R ? I P K P; D COGGCTGCGGCCGATTGTGAACATCGACTACGTCGTGGGAGCCGAGACGTTCCGCAGGAAAAGACGGCCGAGCGGTGAAGGCACTGTTCAGCGTGCACCTACCGACGGCGGGGAAGGCACTGTTCAGCGTGCTCAACTACGA RARRGLLGASVLGLDDIHRAWRTFYLRVRAQDPPPELYF GAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGAGCCACGTCTCTACCTTCACAGACCTCCAGGCGGTACATGCGACAGTTCGTGGCTCACCTGCAGGAGACCAGCCCGCTGAGGGA K A A H G H V R K A F K S H V S T L T D L Q 7 Y N R Q F V A H L Q E T S 7 L R D I B Q S S S L N B A S S G L P D V F L R P M C H H A V R I R G K S Y V Q C Q G, I P Q G S I L S T L L C S L C Y G D M 3 N X L F A G I R R D G L L R L V D TGTAGAAGACGAGGCCCTGGGTGGCAGGGCTTTTGTTCAGATGCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGGATACCCGGGACCCTGGAGGTGCAGAGGGACTACTCCAG 

TGCCACAGGGTGCCCCTCGTCCCCATCTGGGGCCCGAGCACAATGCATCTTTCTGTGGAGTGAGGGGGGCCCTCACAACGGGAGCAGTTTTCTGTGCTATTTTGGTAA.



## Altered C-terminus protein

ATGCCGCGCGCTCCCCGCTGCCGCTCCCTCCCTGCGCGCACCTACCGCGAGGTGCTGCCGCCACGTTCGTG PRAPRCZAVRSLLRSETREVLPLATPY CONCENTRATION OF THE PROPERTY RRLGPQGWRLVQRGDPAAFRALVAQCLV CVPWDARPPPAA CCCCTCCTTCCCCCAGGTGTCCTCCCTCAAACGAGCTGGTCCCCCCAAGTGCTGCAGGCCCCCAGAGGACGCCCCCGGAAGAACGTGCTGCCCTTCCGCTTCCGCTGGACGGCCCCC PSPRQVSCLKELVARVLQRLCERGAENVLAFGFALLDGAR G G P P E A F T T S V R S Y L P M T 7 T D A L R G S G A W G L L R R V G D D LVHLLAZCALFVLVAPSCAYQVCGPPLYQLGAATQAZPPP ACACCETAGECCCCCTAGECCTCTGGCATGCCGAACCGCCTGGAACCATAGCGTCAGGCCGGGGGTCCCCCTGGGCCTGCCGAGCCCGGGGGCGAGGGCGGGGCCAGTGC HASGPRRELGCERAWNESTREGUPLGLPAPGARRGGSA  $\tt executation to the contract of the contrac$ S R S L P L P K R P R R G A A P Z P S 2 T P V G Q G S W A R P G R T R G P S D R C V V S P A R P A E Z A T S L E G A L S G T R H S H P S V G R Q H H A G P STSRPPRPUDTPCPPVYAZTKZ7LYSSGDKZQLRPSPLLS S L R P S L T G A R R L V S T L P L G S R P W M P G T P R R L P R L P Q R Y W Q ANTICOSCOCIOTITICICO ACCIOCITICO CANCIACO COCCIO COCIO COCCIO COC 1 2 9 L P L B L L G N H A Q C P Y 3 V L L K T H C P L R A A V T P A A G V IRQHLKRVQLRELSEAEVAQEREADALLTSRLRFIPKPD  ${\tt cosscrete} {\tt cosscrete}$ L V N N D Y V V G A Z T F Z Z Z X Z A Z R L T S R V K A L F S V L N Y Z RAZRPGLLGASVLGLOJIZZAVZTPVLRVZAQDPPPZLYP K 'V D V T G A Y D T I P Q D R L T E 7 I A S I I K P Q N T Y C V R R Y A V CANGECTSCCALTGGGCACGTCTGGCAGGCCTTCAAGACCCACGTCTGTACCTTGACAGACCTTCAGCCGACAGTTCGTGGCTCACCTTGCAGGAGACCCAGCCGGCTGAGGAGA K A A H G H V R K A F K S H V S T L T D L Q F Y M R Q F VAHLQSTSPLRO TOCCOTOCTCATCGAGCAGAGCTCCTCCCTGAATGAGGCCAGCAGTGGCCTCT CCAGGGGATCCCGCAGGGCTCCATCCTCCACGCTGCTGCTGCCTGTGCTTACCGCCTACACAACAACAACTGTTTGCGGGGATTCCGCGGACGCCTGCTCCTGCGTTTCGTGGA Q G I F Q G S I L S T L L C S L C Y G D M B M K L F A G I R R D G L L R L V D DPLLVTPHLTHAX TPLZTLYZZYPZYGCVVNL RKTV EDZALGGTAPVQNPAHGLF7WCGLLDTATLEVQSDYSS CTATGCCCSGACCTCCATCAGACCCAGTCTCACCTTCACCSCCSCCTTCAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAGTGTCACAGCCTGTTTCTGGA Y A R T S I R A S L T P M R G P K A S R M M R R K L P G V L R L K C K S L P L D TTTGCAGGTGAACAGCCTTCCAGACGATGTGCACCAACATCTACAAGATCCTGCTGCTGCTGCAGCCTACAGCATGTGTGCTGCAGCTCCCATTTCATCAGCAAGTTTGGAAGAA T Q A N 2 T G L A C L N I A K I T T T S Y A S L Y C A T G T L L H G G A M K N T P F L R V I S D T A S L C Y S I L K A K M A CCCAAGAAACATTTCTGTCGTGACTCCTGCGGTGCTTGGGTC E E N I L V V T P A V L G S

GGGACAGCCAGAGATGGAGCCAGCCCGCGAGAGCGGGCAGCTTTCCCGGAGGAGAGGGGAGAGGGGAGTTGGGCTGGGCCTGTGACTCCCCCAGGGCTGTTTTCCCCCCAG

# JAN 2 1 2003 E

### Protein that lacks motif A

ATGCCGCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCACCTACCGCGAGGTGCTGCCGCCACGTTGGTG M P R A P R C R A V R S L L R S H X R B V L P L A T P V CCCCTCCTTCCCCCAGGTGTCCTGCCTGAAGGAGCTGGTGCCCGAGTGCTTCCAGAGGCTGTGCGAGGGCGGAAGAAGGTGCTGCCCTTCGGCTTTCGCCTTGGACGGGGCCGG PSFRQVSCLKBLVARVLQRLCBRGAKNVLAFGFALLDGAR G G P P E A F T T S V R S Y L P M T V T D A L R G S G A W G L L R R V G D D V LVELLARCALFVLVAPSCAYQVCGPPLYQLGAATQARP ASGPRERLGCERAWNES TREAGVPLGLPAPGARREGGS CAGCCCAAGTCTGCCCTAGAGGCCCTAGGCGTGGCGCTGCCCCTGAGCCGGAGGCGGACGCCGTTGGGCCAGGGCCCTAGCCGGGCAGGAGGCGTGGACCGAGTGAACCG S A S L P L P K R P R R G A A P E P E R T P V G Q G S W A H P G R T R G P S D R G P C V V S P A R P A E E A T S L E G A L S G T R H S H P S V G R Q H H A G P P T S R P P R P M D T P C P P V Y A Z T K H P L Y S S G D K E Q L R P S P L L S CTCTCTGAGGCCCTGACTGGCGCTCGGAGACCCTCGTTGCTAGGGTTCCAGGCCCTTGGATGCCAGGGACTCCCGGCAGGTTGCCCCGCAGGCTACTGGCA L R P S L T G A R R L V R T I F L G S A P W M P G T P R R L P R L P Q R Y E K P Q G S V A A P E Z E D T D P R R L V Q L L R Q R S S P W Q V Y G F V R A C T M K M S V A D C A M L A A B P G V D C V P A A B H R L R E E I L A K F L H M L V G A R T P R R E K R A E R L T S R V K A L F S GLRPIVNMDYV  $\frac{1}{2}$ RARRPGLLGASVLGLDDIRRAWRTFVLRVRAQDPPPEL TGTCAAG V K DRLTEVIASIIKPQNTYCVRRYAVVQ каансичка рквичето горума отучань о втеры во TECCETCETCATCGAGCAGAGCTCCTCCCTGAATGAGGCCAGCAGTGGCCTCT TEGACSTETTECTACSCTTCATGTGCCACCACGCGGGCATCAGGGGCAAGTCCTACGTCCAGTG A V V I E Q S S S L M Z A S S G L ? Э V ? L R ? M C H H A V R I R G K S Y V Q C CCAGGGGATCCCCCCAGGGCTCCATCCTCTCCCACCCCTGTCCTGCCCTGCTGCTACAGCACAACAACCTGTTTGCCGGGATTCCGCCGGACCGGCTGCTCCTCCGG Q G I P Q G S I L S T L L C S L C Y 3 3 M E M K L P A G I R R D G L L R L V D P L L V T P H L T H A K T P L R T L V R G V P B Y G C V V N L R K T V CCCCACATTITTCCTGCGCGTCATCTCTGACACCGCCTCCGCTACTACTCCAACCCCAACAACCCCAGCAATGTCGCTGGGGCCAAGGGCGCGCCGGCCCTCTGCCCTCCGA T F F L R V I S D T A S L C Y S I L K A K N A G M S L G A K G A A G P L P S E A V Q W L C H Q A F L L K L T R H R V T Y V P L L G S L R T A Q T Q L S R K L פאסדסדכנסטבדמאסטכנזימאסנסאסדנידכנאסנכנאאסנסנדמאסנסנדמאסנסבאסנכאלנדידכנסדרבאכנסנכדוכבאכטסטכנסטכדיכאסטכנבאסנכ GGACCCTGGGAGCTCTGGGAATTTGGAGTGACCAAAGGTGTGCCCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGGTCCCTGTGGGTCAAATTGGGGGGAGGTGCTGTGGGAGTAA AATACTGAATATATGAGTTTTTCAGTTTTGA



## Truncated protein that lacks motif A

ATECCESCECTCCCCGCTSCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACTACCGCGAGGTGCTGCCGCTGGCCACGTTCGTG MPRAPRCRAVES LLESHTYREVLPLATF R R L G P Q G W R L V Q R G D P A A P R A L V A Q C L V C V P W D A R P P P A A  ${\tt cocrective cocretive craneae corrected cocretive coefficients coe$ S P R Q V S C L K E L V A R V L Q R L C E R G A K H V L A P G P A L L D G A R G G P P B A F T T S V R S Y L P N T V T D A L R G S G A W G L L R R V G D D V LVHLLARCALFYLVAPSCAYQVCGPPLYQLGAATQARPPP ACACCCTAGTCGACCCCTGAACCCCTCTGGATCCGAACCGCCTGGAACCATAGCGTCAGCGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCGAGGAGGCGCGGGGGAACCATACC HASGPRRLGCERAWNHSVREAGVPLGLPAPGARRGGSA  $\textbf{cx} \\ \textbf{ccc} \\ \textbf{carefulation} \\ \textbf{correction} \\ \textbf{correct$ S R S L P L P K R P R R G A A P E P E R T P V G Q G S W A H P G R T R G P S D R G P C V V S P A R P A E E A T S L E G A L S G T R E S E P S V G R Q E E A G P P STSRPPRPWDTPCPPVYAZTKH?LYSSGDKEQLRPSPLLS CTCTCTGAGGCCCAGCCTGACTGGGAGGCTCGGGAGGCCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGGAGGCTTGCCCCGAGCGCTACTGGCA S L R P S L T G A R R L V B T I P L G S R P W M P G T P R R L P R L P Q R Y W Q ANTICOSCOCCTOTITICTGGAGCTGC:TGGGAACCACGCGCAGTGCCCCTACGGGGTGCTCTCAAGACGCACTGCCGGTGAGCTGCGGTCACCCCAGCAGCCGGTGTCTGTGCCGG MRPLPLELLGNEAQCPYGVILKTHCPLRAAVTPAAGVCA GENERAGECCCAGGGCTCTGTGGCGGCCCCCGAGGAGGAGACACAGACCCCCGTGGCCGGTGCAGCTGCTGCCGGCAGACAGCAGCAGCAGCAGCAGCAGGTGTACGGCTTGTGCGGGGCCTG E K P Q G S V A A P E Z Z D T D P R R L V Q L L R Q H S S P W Q V Y G P V R A C L A R L V P P G L W G S R H N B R R F L R N T K R F I S L G K H A K L S L Q E L I R Q H L K R V Q L R Z L S Z A Z V R Q H R Z A Z P A L L T S R L R P I P K P  ${\tt accedence} {\tt accedence}$ RARRECOLUNIC GASVIGICCIDIV RARES COLDIVERA RARES COLDIVERA RARRES COLDIVER  ${\tt cacadeteaced accepteate cateace coloridate coloridates controled to the coloridate coloridate coloridate coloridates colo$ D R L T B V I A S I I K P Q N T Y C V R R Y A V V Q CAACGCCGCCCATGGGCACGTCCCCAAGGCCCTTCAAGAGCCACGTCTTAACACGCCTCCAGCCGTACATGCGACAGTTCGTGGCTCACCTGCAGGAGACCAGCCCGCTGAGGGA K A A H G H V R K A F K S H V S T L T D L Q P Y H R Q F V A H L Q S T S P L R D CCAGGGGATCCCGCAGGGCTCCATCCTCTCCACGCTGCTCTGCAGCCTGTGCTACGCCGACAACAAGCAGATTTGCGGGGGATTCGGCGGGACGGCTGCTCCTGCGTTTTGGTGGA Q G I P Q G S I L S T L L C S L C Y J D N E N K L F A G I R R D G L L R L V D TGATTTCTTGTTGACACCTCACCTCACCCACCCGAAAACCTTCCTCAGGACCTCTGGTGCGAGGTGTCCCTGAGTATGGCTGGTGAACTTGCGGAAGAAGACAGTGGTGAACTTCCC D F L V T P H L T H A K T P L R T L V R G V P S Y G C V V N L R K T V V N F V E D E A L G G T A F V Q N P A H G L F P M C G L L D T R T L Z V QSDYS GTGAGCGCACCTGGCCGGAAGTGGAGCCTGTGCCCCGGCTGGGGCAGGTGCTGCTGCGGCGCGGTTGCGTTCCACCTGTGGTGGGGCAGGCGACTGCCAATCCCAAAGGGTCAGA AKTEOTYTTATSOTOTTTTOKSOKASCSAKASKSTSSSTORGERAKDERGETTTSTKSSTKAKSKSOKDTSDDORTSTKSSSTOSSDDORGERAKSKSSDR.



## Lacks motif A and altered C-terminus

ATGCCGCGCGCTCCCCGAGCCGAGCCGTCCCTCCTCCTCCCGCACCTACGCGAGGTGCTGCCGCTGGCCACGTTCGTG M P Z A P Z C Z A V R S L L R S H TYR E V L P L A T P RRLGPQGWRLVQRGDPAAFRALVAQCLVCVPWDARPPPAA ccccrectrecs coases are considered as a consPSFRQVSCLKELVARVLQZLCBRGAKNVLAFGFALLDGAR G G P P E A 7 T T S V R S Y L P M T V T D A L R G S G A M G L L R R V G D D V L V H L L A R C A L F V L V A P S C A Y Q V C G P P L Y Q L G A A T Q A R P P P HASGPERLGCERAWNHSVZBAGVPLGLPAPGARRGGSA  $\textbf{cx} \\ \textbf{ccc} \\ \textbf{a} \\ \textbf{c} \\ \textbf{c}$ S R S L P L P K R P R R G A A P B P E Z T P V G Q G S W A H P G R T R G P S D R G F C V V S P A R P A S E A T S L E G A L S G T R H S H P S V GRQHHAGP T S R P P R P W D T P C P P V Y A Z T R R P L Y S S G D K E Q L R P S P L L S LRPS LTG ARRL V STIFLGS R PWM PGT PRRLPRLPQRY ANTICOGCCCCTOTETCTGGAGCTGCTTGGGAACCACGCGCAGTGCCCCTACGGGGTGCTCTCAAGACGCACTGCCGGTGCGAGCTGCCGAGCCCCAGCCGGTGTCTGTGCCCG MRPLFLELLGNHAQCPYGVLLKTHCPLRAAVTPAAGVCA CACCTGGAAGATCAGCGTGCGGGACTGCGCTTGGCTGCGCGAGGCCCAGGGGTTGGCTGGGCGAGGAGCACCGTCTGCGTGAGGAGATCCTGCCAAGTTCCTGCACTGGCT T W K M S V R D C A W L R R S P G V G C V P A A E H R L R E E I L A K P L H W L AATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTGTCGGAAGCAGGAGGTCAGGCAGCATCGGGAAGCCAGGCCCGCCGTGCTGACGTCCAGACTCCGG IRQHLKRVQLRELSEAZYRIHREARAN L R P I V N M D Y V V G A R T P R R Z K R A Z R L T S R V K A L P S V L N Y E RARROGLEGASVEGEDDIHRANATEVERVAAQDPPPRELYF TGTCAAG D R L T E 7 I A S I I K P Q N T Y C V R R Y A V Y Q  $\textbf{daa} \textbf{descended a confidency and a$ KAAHGRVRKAFKSHVSTLTDLQFKMACONOLOGICAL AVVISQSSLNEASSGLPDVPTRPMCHHAVRIRGKSYVQC CCAGGGGATCCCGCCGCTCCATCCTCTCCACCCTGCTCCTGCCACCCTGTSCTACGCCGCAACAACAACCAGCTGTTTGCGGGGATTCCGCGCACCGCCTGCTCCTGCGTTTTGCTGCA Q G I P Q G S I L S T L L C S L C Y G J M S N K L P A G I R R D G L L R L V D F L L V T P H L T H A K T F L R T L V R G V P E Y G C V V N L R K T V V N P TGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGATGCCGGCCCTACTCCCCTGGTGCGGCCTGCTGGATACCCCGGACCCTGGAGGTGCAGAGCGACTACTCCAG V E D E A L G G T A F V Q M P A H G L F 7 W C G L L D T R T L E V Q S D Y S S CTATGCCCGGACCTCCATCAGGCCAGTCTCACCCTCCACCCCGCTTCAAGGCTCGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGTCTTGCCGCTGAAGTGTCACAGCCTGTTTCTGGA Y ARTSIRASLTPN AGPKAGANN ARKLPGVLRLKCHSLP TTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTACAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTCCCATTTCATCAGCAAGTTTGGAAGAA L Q V N S L Q T V C T N I Y K I L L L J A Y R P H A C V L Q L P P H Q Q V W K N CCGAAGAAAACATTTCTGTCGTGACTCCTGCGGTGCTTGGGTC EZMILVVTPAVLGS GGGACAGCCAGAGATGGAGCCACCCCGGCAGACCGTGTGGGGCAGCTTTCCGGTGTGTCTC G Q P E M E P P R R P S G V G S ? ? V S ? G R G V G L G L . THE GOAD GOOD AND THE CONTROL OF THE

FIG. 11K



## N-terminal truncated telomerase (ver. 2)

MPRAPRORAVESLLRSHZAREVLPLATE coeccete cRRLGPQGWRLVQRGDPAAPRALVAQCLVCVPWDARPPAA G L P G V G V R L G L R A A G G M Q R H A E S S A G D S G R P P R R A S P G S A S G W G \* G R P G G T S D M R R A A Q A T Q G A S P A G P P R G R R P A G V B G G R G E P A T C G E Q R R L R A L P P Q CCCCTCCTTCCCCCAGTGTCCTCCCTCAAGCAGCTGGTGCCCCAAGTGCTGCAAGACCTGTGCCGAAGAACGTGCTGGCCTTCGGCTTCGGCTTGGACGGGGCCGG SPRQVSCLEELVARVLQRLCERGARVLAFGPALLDGAR G G P P E A F T T S V R S Y L P N T V T D A L R G S G A W G L L R R V G D D LVHLLARCAL PVLVAPSCAYQVCGPPLYQLGAATQARPP HASGPREL GCERANNES VERY GLPAPGARREGGSA S R S L P L P K R P R R G A A P E P E R T P V G Q G S W A H P G R T R G P S D R T S R P P R P N D T P C P P V Y A S T K H P L Y S S G D K E Q L R P S P L L S CTCTCTGAGGCCCAGCCTGACTGGCGCCCGGAGGCTCGTGGAGACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTGCCCCGGCGCCTACTGGCA S L R P S L T G A R R L V S T I F L G S R P W M P G T P R R L P R L P Q R Y W Q AATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACGCGCAGTGCCCCTACGGGTGCCCCTACGGGTGACCTGCCGAGCTGCCGAGCTGCCGGTGTCTGTGCCCG N'R P L P L E L L G N H A Q C P Y 3 7 L L K T H C P L R A A V T P A A G V C A R LRRLVPPGLWGSRHNERRFLRNTKKFISLGKHAKLSLQEL GACGTGGAAGATGAGCGTGCGGGACTGCGCTGCGCAGGAGCCCAGGGGTTGGCTG.GTTCCGGCCGAGAGCACCGTTGCGTGAGGAGATTCCTGGCCAAGTTCCTGCACTGCCT TWKMSVRDCAWLRRSPGVJCVPAAEHRLREEILAKFLH AAT - - NNN - - GACAGTCACCAGGGGGGTTGACCACCGGCGTCCCCCAGGGTTCACTATAGGACCAGGTGTCCAGGTGCCCTGCAAGTAGAGGGGGTCTCAGAGGGGGTCTCGGCTGG chrosorogae corrected coGCTGAGCAAGCCTCCTGAGGGGGCTCTCTATTG\_



## Truncated protein 1 (ver. 2)

RAPRCZAVRSLLRSHTREVLPLATFV coccentrate constructions considered and considerRRLGPQGNRLVQRGDPAAFRALVAQCLVCVPNDARPPP  ${\tt coccrecion} {\tt c$ GLPGVGVRLGLRAAGGNQRHAESSAGDSGRPPRR ASPGSASGWG•GRPGGTSDMRRAAQATQGASPAG PPRGRRPAGVEGGZEGPATCGEQRRRLRALPPQ P S P R Q V S C L K E L V A R V L Q R L C E R G A K N V L A P G P A L L D G A R G G P P B A F T T S V R S Y L P N T V T D A L R G S G A H G L L R R V G D D V LVHLLARCALPVLVAPSCATQVCGPPLYQLGAATQARPPP HASGPRRLGCERAWN HS 7 REAGVPLGLPAPGARRGGSA  $\tt case consider the construction of the cons$ S R S L P L P K R P R R G A A P B P B R T P V G Q G S W A H P G R T R G P S D R G P C V V S P A R P A E E A T S L E G A L S G T R H S H P S V G R Q H H A G P LRPS LTG ARRL V ET LPL 3 S R P W M P G T P R R L P Q R Y ANTGCOCCCCTGTTTCTGCAGCTGCTTGGGAACCACGGCTGCTCCTTACGGGGTTCTTCTAGACGGCGCTGCCGAGCTGCCGAGCCCGCTCACCAGCCGGTGTCTGTGCCCG M R P L P L E L L G M H A Q C P Y G V L L K T H C P L R A A V T P A A G V C A R COTOCOCCOGOTOGOCCTCTOGOGCTCCAGGCACAACGAACGCCCCCTTCCTCAGGAACACCCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAAGCTCTCGCTGCAGGAGCT L R R L V P P G L W G S R H N E R R F L R N T K K F L S L G K H A K L S L Q E L GACGTCGAAGATGACCSTGCCGGACTGCCGCTTCGCCTGCACAGCCCCAAGCCCCCTGTGTTCCGGCCCAAGAGCACCACGTCTGCGCGAAGATCCTGGCCAAGTTCCTGCACTGGCC W K M S V R D C A W L R R S P G V S C V P A A S H R L R E E I L A K P L H W L ANTENDALADED STENANTED DESTENDANTED DESTENDED DE DE DESTENDANTED DE DE DESTENDAD DE DE DE DESTENDAD DE DESTENDAD DE DE DESTENDAD DE DE DESTENDAD DE DESTENDA T R Q H L K R V Q L R E L S E A E V R Q E R E A R P A L L T S R L R P GTGGCTGTGCTTTGGTTTAACCTGCTTTTTAACCAGAA



#### Truncated protein 2 (ver. 2)

M P R A P R C R A V R S L L R S H T R S V L P L A T P V CONCENTRATION OF THE PROPERTY R R L G P Q G W R L V Q R G D P A A P R A L V A Q C L V C V P W D A R P P P A A LPGVGVRLGLRAAGGNQRHAESSAGDSGRPPRR SPGSASGWG \* GRPGGTSDMRRAAQATQGASPA PRGRRAGVEGERATCGEQRRRLRALPP'Q PSPRQVSCLRBLVARVLQRLCERGAKHVLAPGFALLDGAR G G P P E A F T T S V R S Y L P M T V T D A L R G S G A W G L L R R Y G D D V LVELLARCALPVLVAPSCATQVCGPPLYQLGAATQARPPP H A S G P R R R L G C B R A W M H S 7 2 B A G V P L G L P A P G A R R G G S A CAGCCGAAGTCTGCCGAAGAGGCCCAGGGCGTGGCGCTGCCCCTGAGCCCGAGAGGCGGCGTCGGCAGGGGGTCCTGGGCCAGCCGGGACGCGTGGACCGAAGTGACCG S R S L P L P K R P R R G A A P B P B R T P V G Q G S W A H P G R T R G P S D R STSRPP2PWDTPCPPVYAZTKHPLYSSGDKRQLRPSPLLS COTOCCCCGCTGGGGCCTCTGGGGCTCCAGGCCACAACGAACGCCGCACGAACCTTCTCTCAGGAACACCAAGAAGTTCATGTCCCTGGGGAAGCATGCCAAGCTTCTCGCTGCAGGAGCTL R L V P P G L W G S R H N  $\Xi$  R R L Z R R L Z R R L Z R L Z R L Z R R L Z R L Z R R L Z R R L Z R I R Q H L K R V Q L R E L S E A E V R Q H R E A R P A L L T S R L R P I P K P D CGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTCGGAGCCAGAACGTTC SCICIACIANAACACCCCCCACCCTCTCACCTCCACCGTGAAGGCACTGTTCAGCGTGCTCAACTACGA G L R P I V N M D Y V V G A R T P R R Z K R A Z R L T S R V K A L P S V L M Y Z פסמפכסמספככככככבבבבעפכנספכנספבובועופבבספפבנופטאפטאבאבאבאבאבאבבבבופטפטפטבובאפאבעבפבנספפבנומאפטיאבאב RARRGLLGASVLGLDDIBRAWRTFVLRVRAQDP GAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGAGCCAC KAAHGHVRKAF GTCCTACGTCCAGTG VLRPV 

FIG. 11N

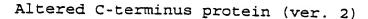
TGATTTCTTGTTGACACCTCACCCCACCCGAAAACCTTCCTCAGGACCTTGGTCGAGGGTGTGCCTGAGTATGCCTGCGTGGTGAACTTGCGGAAGAACACTGGTGAACTTCCC



### Truncated protein 3 (ver. 2)

M P R A P R C R A V R S L L R S H T R E V L P L A T P V coccectroscoccetrosRRLGPQGWRLVQRGDPAAFRALVAQCLVCVPWDARPPPAA L P G V G V R L G L R A A G G N Q R H A B S S A G D S G R P L S P G S A S G W G \* G R P G G T S D M R R A A Q A T Q G A S P P R G R P A G V E G G R G E P A T C G E Q R R L R A L CCCTTCTTCCCCAGGTGTCCTGCCTGAAGGACTGGTGGCCCGAAGTGCTGCGAGGCCTGTGCGAAGGACGTGCTGCCTTCGCCTTCGCCTTCGGAGGGGGCCCG S F R Q V S C L K B L V A R V L Q R L C B R G A K N V L A F G F A L L D G LVHLLARCALFVLVAPSCAYQVCGPPLYQLGAATQARPP HASGPRARL GCERANNHS723AGVPLGLPAPGARRGGSA R S L P L P K R P R R G A A P E P E R T P V G Q G S W A H P G R T R G P S D R S P A R P A E S A T S L E G A L S G T R H S H P S V G R Q H H A G P בדכדכדקאפטבבבאסבברקסאבסבבבסבסבבבבקרפטאבאבבאדברדיוברססורובבאפטבבבוססאדקכבאסקאבדכבבבסברקסבבבבבבקרקבבבבאטבסבדאבדקספב S L R P S L T G A R R L V E T I F L G S R P W M P G T P R R L P R L P Q R Y W Q AATOCCCCCCTGTTTCTGGAGCTGCTTGGGAACCACGCGGAGTGCCCCTACGGGGTGCTCTCTGAGGAGCGGCTGCCGGAGCTGCGGAGCTGCGGAGCTGCCGAGCAGCCGGTGTCTGTGCCCG PPGLWGSRHNERRFLRNTKKFLSLGKHAKLSLQEL GACGTGGAAGATGAGCGTGCGGGACTGCGCTTGGCTTGCGCAGGGGCCCAGGGGTTGGCTGTGTTGCTGCAGGAGAGCACCGTCTGCGTGAGGAGATCCTGGCCAAGTTCCTGCACTGGC T W K M S V R D C A W L R R S P G 7 G C 7 P A A Z H R L R Z E I L A K P M S V Y V V E L L R S P P Y V T E T T P Q X M R L P F Y R K S V W S X L Q S I G I R Q H L K R V Q L R Z L S E A E V R Q E R Z A R A L L T S R L R F I P K P G L R P I V N M D Y V V G A R T F R R E K R A S R L T S R V K A L F S V L N Y S GCGGGCGCGCGCCCCGGGCCTCCTGGGCCTCTGTGCTGGGCCTGGACGATATCCAACGCCCTGGGCCCACCTTCGTGCTGCGTGTGCGGGCCCAGGACCCGCCGCCTGAGCTGTACTT RARPGLLGASVLGLDDIERAWRTFVLRVRAQDPPPELYF K V D V T G A Y D T L P Q D R L T X V : A S L L K P Q N T Y C V R R Y A V V Q K A A H G H V R K A F K S H V S T L T D L Q P Y M R Q F V A H L Q E T S P L R TGCCGTCGTCATCCAGCAGCTCCTCCCTGAATGAGGCCAGCAGTGGCCTCTTCCACGTCTCCTACGCTTCATGTGCCACCACGCCGTGCGCATCAGGGCCAAGTCCTACGTCCACTG A V V I E Q S S L N E A S S C L 7 D V 7 L R 7 M C H H A V R I R G K S Y V Q CCAGGGGATCCCGCGCTCCATCCTCCCACGCTGCTCTCCAGCCTGTSCTACGCCGAACAACAACAACATGTTTGCGGGGATTCGGGGGACGGCCTGCTCCTGCGTTTTGGTGGA Q G I P Q G S I L S T L L C S L C Y G D M S N K L F A G I R R D G L L R L V D V E D E A L G G T A F V Q M P A H G L F P W C G L L D T R T L E V Q S D Y S GTGAGCCCACCTGGCCCGAAGTGGAGCCTGTGCCCCGGCTGGGGCAGGTGCTGCTGCCCGCCGGTGTGCGACCTCTGCTTGCGTGTGGGGAAGGGGACTGCCAAATGCGAAAGGGTGAGA TGCCXCXGGGTGCCCCTCGTCCCXTCTGGGGGTGAGCXCXAATGCXTCTTTCTGTGGGAGTGAGGGTGCCTCXCAACGGGAGCAGTTTTCTGTGCTXTTTTGGTXA...

FIG. 11R





Q R G D P A A F R A L .V A Q C L V C V P M D A R P P P A A L P G V G V R L G L R A A G G N Q R H A E S S A G D S G R P A S P G S A S G W G \* G R P G G T S D N R R A A Q A T Q G A S PRGRRPAGVEGSZGEPATCGEGRREZALPPG P CCCCTCCTTCCCCCAGGTGTCCTGCCTGAAGGAGCTGGTGGCCCGAATGCTGCAAGAGCCTGTGCGAGGGCGCGGCGGAAGAACGTGCTGGCCTTCGGCTTGGAGGGGGGCCCG PSFRQVSCLKELVARVLQRLCERGAKNVLAFGFALLDGAR G G ? P E A P T T S V R S Y L P N T V T D A L R G S G A W G L L R R V G D D V LVHLLARCALPVLVAPSCAYQVCGPPLYQLGAATQARP ACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGCCTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCTGGGCCTGCCAGCCCCGGGTGCGAGGAGGAGGGCGGGGCAATGC HASGPERELGCERAWN HSVZEAGVPLGLPAPGARRGGSA S R S L P L P K R P R R G A A P B P B R T P V G Q G S W A H P G R T R G P S D R G F C V V S P A R P A B Z A T S L E G A L S G T R H S H P S V G R Q H H A G P TSRPPRPWDTPCPPYYAZTKRPLYSSGDKEQLRPSPLLS CTCTCTCAGGCCCTGACTGGCCCTCGGAGGCCTCGTGGAGACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGGAGGTTGCCCCGGCGCTGCCCCAGCGCTACTGGCA ANTICOGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACSCGCAGTGCCCCTACSGGGTSCTCCTCAAGACGCACTGCCGGCTGCCGAGCTGCCCGAGCCGGGTGTCTGTGCCCG E K P Q G S V A A P S E E D T D P R R L 7 Q L L R Q H S S P W Q V Y G F V R A C L R R L V P P G L W G S R H N E R R P L R N T K K P I S L G K H A K L S L Q E L GACGTGGAAGATGAGCGTGCGGGACTGCGCTTGGCTGCGCAGGAGCCCCAGGGGTTGGCTGTGCGCGAGAGCAGCACCGTCTGCGTGAGGAGGATCCTGCCAAGTTCCTGCACTGGCTTT W K M S V R D C A W L R R S P G V G C V P A A S R R L R E S L A K F L H W L I R Q H L K R V Q L R E L S E A E V R Q H R E A R P A L L T S R L R F CGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGCCAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCAACGGAGGGACGTGAAGGCACTGTTCAGCGTGCTCAACTACGA G L R P I V N M D Y V V G A R T ? R R R R A B R L T S R V K A L P S V L N <u> ರದರಭದರದರಿದರದದದ್ದರದದ್ದರದರದದದದದ್ದರು. ದದ್ದು ಬರುಗಳ ಬರುದದದ್ದು ಬರುಗಳ ಬರುದದದ್ದು ಬರುಗಳ ಬರುದದದದ್ದು ಬರುಗಳ ಬರುದದದ್ದು ಬರುಗಳ ಬರುದದದ್ದು ಬರುಗಳ ಬರುದದದ್ದು ಬರುಗಳ ಬರುದದದ್ದು ಬರುಗಳ ಬರುದದ್ದು ಬರುಗಳ ಬರುದದ್ದು ಬರುದದ್ದು ಬರುಗಳ ಬರುದದ್ದು ಬರುದದ್ದು ಬರುಗಳ ಬರುದದ್ದು ಬರುದಿದ್ದು ಬರುದದ್ದು ಬರುದದ್ದು ಬರುದದ್ದು ಬರುದದ್ದು ಬರುದದ್ದು ಬರುದದ್ದು ಬರುದಿದ್ದು ಬರುದದ್ದು ಬರುದದ್ದಿದ್ದು ಬರುದದ್ದಿದ್ದು ಬರುದದ್ದಿದ್ದು ಬರುದದ್ದಿದ್ದು ಬರುದದ್ದಿದ್ದು ಬರುದದ್ದಿದ್ದು ಬರುದದ್ದಿದ್ದು ಬರುದದ್ದಿದ</u> RARPGLLGAS, VLGLDDIHRAWRTPVLRVRAQDPPPBLYP V K V D V T G A Y D T I P Q D R L T Z V I A S I I K P Q N T Y C V R R Y A V GAAGGCCGCCCATGGGCACGTTCCGCAAGGCCTTCAAGAGCCACGTCTCTACCTTGACAGACCCCCTACATGCGACAGTTCGTGGCTCACCTGCAGGAGACACCAGCCGCTGAGGGA K A A H G H V R K A F K S H V S T L T D L Q P Y M R Q F V A H L Q E T S P L R D TGCCGTCGTCATCCAGCAGCACCTCCTCCCTGAATGACCCAGCAGTGCCCTCTTCGACGTTCTACGTCCTACGCCACCACGCCGTGCGCATCAGGGCAAGTCCTACGTCCAGTG VIEQSSSLNEASSGLFD77LRFMCHHAVRIRGKSY CCAGGGATCCCGCAGGGTCCATCCTCTCCACGCTGCTCTGCAGCCTGTGCTACGGCTACATGGAGAACAAGCTGTTTGCGGGGATTCGGCGGACGGGCTGCTCCTGCGTTTGGTGGA TOTAGRAGACCAGGCCCTGGGTGGCACGGCT.TTGTTCAGATGCCCGGCCCACGGCCTATTCCCCTGGTGCCGGCCTGGTGCTGGAGTACCCCGGACGTGCAGAGCGACTACTCCAG V E D E A L G G T, A F V Q M F A H G L F F N C G L L D T R T L E V Q S D Y S S CTATGCCCGGACCTCCATCAGAGCCAGTCTCACCTTCAACCGGGCTTCAAGGCTGGGGGAACAGTGTTTCGGGAAACTGTTTCGGGTCTTGCGGCTGAAGTGTCACAGCCTGTTTCTGGA Y A R T S I R A S L T F N R G F K A G R N M R R K L F G V L R L K C H S L F L D TTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTACAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTCCCATTTCATCAGCAAGTTTGGAAGAA FLRVISDTASLCYSIL XAKNAS CCGAAGAAAACATTTCTGTCGTGACTCCTGCGGTGCTTGGGTC BENILVVTPAVLGS GGGACAGCGAGAGATGGAGCCACCCGGCAGACCGTCGGGGTGTGGGGCAGCTTTCCGGTGTCTC CITCGGAGGGGAGTISGGCTGGGGCTGTGTGTTTCCCCCCAG G Q P E M E P P R R P S G V G S P P V S P G R G V G L G L



## Protein that lacks motif A (ver. 2)

M P R A P Z C Z A V R S L L R S H T/R B V L P L A T P PQGWRLVQRGDPAAFRALVAQCLVCVP WDARPPPAA  $\textbf{coccrection} \textbf{coccrection} \textbf{co$ G L P G V G V R L G L R A A G G N Q R H A B S S A G D S G R P P A S P G S A S G W G \* G Z P G G T S D M R R A A Q A T Q G A S P A G V E G G R G E P A T C G E Q R A R L R A L P P PRGRRP CCCCTCCTTCCCCCAGGTGTCCTGCCTGAAGGAGCTGGTGGCCCGAGTGCTGCAGAGGCCTGTGCGAGCGCGGGGGGGAAGAACGTGCTGGCCTTCGGCTTGGGGTGGACGGGGGCCG PSPRQUSCLKELVARVLQRLCERGAKNVLAFGFALLDGAR G G P P E A F T T S V R S Y L P M T V T D A L R G S G A W G L L R R V G D D V LVHLLARCALFVLVAPSCATQVCGPPLYQLGAATQARPPP HASGPRREGCERAWN HSVREAGVPLGLPAPGARRGGSA S 2 S L P L P K 2 P R 2 G A A P E P E R T P V G Q G S W A H P G R T R G P S D R G F C V V S P A R P A E B A T S L E G A L S G T R H S H P S V G R Q H H A G P T S R P P R P W D T P C P P V Y A Z T K E P L Y S S G D K E Q L R P S F L L S  $\tt considered conside$ R R L V P P G L W G S R H N Z R R F L A N T K K F I S L G K H A K L S L Q E L GACGTGGAAGATGAGCGTGCGGGACTGCGCTTGGCTGCGCGAGGAGCCCCAGGGAGTTCCTGGCGAGGAGCCCCGCGAGGAGAGATCCTGGCCAAGTTCCTGCACTGGCT T W R M S V R D C A W L R R S P G V D C V P A A E H R L R S E L L A K P L H W L RQHLXRVQLAZLSSABVAQBARFALLTSALRF COOGCITGCSCCCGATTGTGAACATSGACTACGTCGTSCGAGCCAGAACGTTCCSCAGAGAAAAAAAAAGAGGCCGTCTCACCTCGAGGGAGGAAGAGGCACTGTTCAGCGTGCTCAACTACGA R P I V N N D Y V V G A R T F R R Z X R A E R L T S R V KALPSVLNYE TGTCAAG ĸ D R L T Z V : A S I I X P Q N T Y C V R R Y A GAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGAGCCACGTCTTCTACCTTGACAGACTTCCTACCTTACATGCGACACTTCGTGGCTCACCTGCAGGAGACCAGCCCGCTGAGGGA RAAH GH V R K A P K S H V S T L T D L Q P V A H L Q S T S P L R D TGCCGTCGTCATCGAGCAGCTCCTCCCTGAATGAGGCCAGCAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTCCACCACGCCGTGCGCATCAGGGGCAAGTCCTACGTCCAGTG A V V I B Q S S S L N Z A S S G L ? D V ? L A P M C H H A V R I R G K S Y V Q C CENGGGATCCCGCAGGGCTCCATCCTCTCCACGCTGCTCTGCAGCCTTATGCTACGCCGACATCGGGGAACAGCTGTTTGCGGGGATTCGGGGGAACAGCGCGTTTGGTGGA Q G I P Q G S I L S T L L C S L C Y G D M Z N K L F A G I R R D G L L R L V D D P L L V T P H L T H A K T P L R T L 7 R G V P B Y G C V V N L R K T V TGTAGAAGACGACGCCCTGGGTGGCACGCCTTTTGTTCAGATGCCGGCCTATTCCCCTGGTGCCGGCTGCTGCTGGATACCCCGACCCTGGAGGTGCAGAGCGACTACTCCAG V E D B A L G G T A F V Q M P A H G L F P N C G L L L D T R T L E V Q S D Y S S CTATGCCCGGACCTCCATCAGGCCAGTCTCACCTTCAACCGCCTCAAGGCTGCGGCTGAAGTCTCACGGCTGAAGTGTCACAGCCTGTTTCTGGA Y A R T S I R A S L T F N R G F R A G R N N 2 R K L F G V L R L R C H S L F L D г олигголиглягтгт эхлябнуслгогый олики  ${\tt ccc}{\tt activated}{\tt ccc}{\tt activated}{\tt activated}{\tt$ T P P L R V I S D T A S L C Y S I L K A K M A G M S L G A K G A A G P L P S E A V Q W L C H Q A P L L K L T R H R V T Y V P L L G S L R T A Q T Q L S R K L P T T L T A L E A A A N P A L P S O 7 K T I L O 

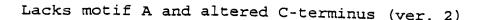
Man a tender

FIG. 11U



Truncated protein that lacks motif A (ver. 2)

M P 2 A P R C 2 A V R S L L R S H R R V L P L A T P R R L G P Q G W R L V Q R G D P A A P Z A L V A Q C L V C V P W D A R P P P A A PG V G V R L G L R A A G G N Q R H A E S S A G D S G R P P R S P G S A S G M G \* G R P G G T S D M R R A A Q A T Q G A S P I P R G R R P A G V E G G R G R P A T C G E Q R R L R A L P P CECCTCCTTCCGCCAGGTGTCCTGCCTGAAGGAGCTGGTGCCCCGAGTGCTGCAGAGCCTGTGCGAGCGCGGGAAGAACGTGCTGCCCTTCGGCTTCGGGTGGTGGACGGGGCCGG S F R Q V S C L X E L V A R V L Q R L C E R G A K N V L A F G F A L L D G A R G G P P E A P T T S V R S Y L P M T V T D A L R G S G A W G L L R R V G D D LVHLLARCALPVLVAPSCAYQVCGPPLYQLGAATQARP HASGPRRELGIEGE RANNES TRAG V PL GL PAPGARRGGS A CAGCCGAAGTCTGCCCTAGGAGGCCCCAGGCGTGGCCCTGAGCCGTGAGCCGGAGGCGGGCCGTTGGGCAGGGGTCCTGGGCCAACCCGGGGAGGACGGAGTGACCGAGTGACCG SRSLPLPKRPRRGAAPZPBZTPVGQGSWAHPGRTRGPSDR T S R P P R P W D T P C P P V Y A S T K S P L Y S S G D K S Q L R P S P L L  $\tt ctctctgaggccctagcttgactggggccctagaggccatcttgaggccatcttgaggccatggaggactccccaggttgccccaggttgccccaggctagcccaaggttgcccaggttgcccaaggttgccccaaggttgccccaaggttgccccaaggttgccccaaggttgccccaaggttgccccaaggttgccccaaggttgccccaaggttgccccaaggttgccccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgccccaaggttgccccaaggttgccccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgccccaaggttgccccaaggttgccccaaggttgccccaaggttgccccaaggttgccccaaggttgccccaaggttgccccaaggttgccccaaggttgcccaaggttgcccaaggttgccccaaggttgccccaaggttgccccaaggttgccccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgccccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgcccaaggttgccaagg$ SLRPSLTGARRLVETIPLGSRP WMPGTPRRLPQRYWQ MRPLFLEL GNHAQCPYSYSSKTHCPLRAAVTPAAGVCAR GENCHARGE CENTRAL DE CONTRAL DE C E K P Q G S V A A P E E B D T D P R R L 7 Q L L R Q H S S P W Q V Y G F V R A C CETECOCCOCCOCCCCCAGGCTTCTGGGGCACAACSAACSCCCCTTTCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAAGCTCTCCCTGCAGGAGCT L R R L V P P G L W G S R H N Z R R P L R N T K K P I S L G K H A K L S L Q E L T N R N S V R D C A W L R R S P D V D D V P A A B R L R B E I L A K P L R W IRQHLKRYQLRZ 1 S S A 2 7 R ] H R Z A R P A L L T S R L R F I P G L R P I V N M D Y V V G A R T P R R S K R A E R L T S R V K A L F S V L N TGTCXAG D R L T Z V : A S I I K P Q N T Y C V R R Y A V CANGGEOGECEATOGGCACGTCCCCAAGGCCTTCAAGAGCCACGTCTCTACCTTCACAGACCTCCAGGCACAGTTCGTGGCTCACCTGCAGGAGACCAGCCCGGCTGAGGGA K A A H G H V R K A F K S H V S T L T D L Q F V A H L Q E T S P L R D TOCCUTCATCGAGCAGCACCTCCTCCATGAATGAGGCCAGCAGTGGCCTC...CGACCTC..TCCTACCCT.TCATGTGCCACCACCGCCGCCACCACGGCCAAGTCCTACGTCCAGTG CCAGGGGATCCGCAGGGCTCCATCCTCTCCACGCTGCTCTGCAGCCTGTGCTACGGCGGACAGCTGATACAGCAGATTCGGGGGGATTCGGGGGACGGGCTGCTCCTGCGTTTGGTGGA QGIPQGS:LSTLLCSLCYGDN3NKLFAGIRRDGLLRLVD TGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGATGCCGGCCCCACGCCCTATTCCCCTGGTGCGGCCTGCTGGATACCCGGAACCCTGGAGGTGCAGAGCGACTACTCCAG EDEALGGTAFVQMPARGLFFMCGLLLDTRTLEVQSDYS GTGAGCGCACCTGGCCGGAAGTGGAGCCTGTGCCCCGGCTGGGGCAGGTGCTGCTGCCGACCGCCGATTCCGTTGCGTTCCGTGTGGGGCAGGCGACTGCCAATCCCAAAGGGTCAGA





```
ATGCCGCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCTGCCCACCTACCGCGAGGTGCTGCCGCTGCCCACGTTCGTG
                                                      RAPRCRAVRSLLRSHTREVLPLATF
       RRLGPQGWRLVQRGDPAAFRALVAQCLVCVP
                                                                                                                   WDARPPPAA
                           LPGVGVALGLAND GAAGGNQRHABSSAGDSGRPPRR
ASPGSASGWG*GRPGGTSDMRRAAQATQGASPAG
PPRGRAPAGVZGGRGEPATCGEQRRLRALPPQ
     CCCCTCCTTCCCCCAGGTGTCCTGCCTGAAGGACCTGGTGCCCCAAGTGCTGCAAGAGCTGTGCGAAGGACGCGCGGAAGAACGTGCTGCCCTTCGGCTTCGGCTTGCACGGGGCCCG
      PSF2QVSCLKELVARVLQZLCERGAKNVLAPGFALLDGAR
     G G P P B A F T T S V R S Y L P M T V T D A L R G S G A M G L L R R V G D D
     LVHLLARCALFVLVAPSCAYQVCGPPLYQLGAATQARPPP
     HASGPRRALGCERAWNHSVRZAGVPLGLPAPGARRAGGSA
     \tt casced a a section and the section of the secti
      S R S L P L P Z R P R R G A A P E P E R T P V G Q G S W A H P G R T R G P S D R
     TOGITTE TO TOTAL CONTROL CONTR
     N D T P C P P V Y A S T K H P L Y S S G D K E Q L R P S F L L
    M R F L F L E L C N H A Q C P Y G V L L K T H C P L R A A V T P A A G V C A R
    E K P Q G S V A A P E B B D T D P R R L 7 J L L R Q H S S P W Q V Y G P V R A
    W K M S V R D C A W L R R S P G 7 G C 7 P A A E H R L R E E I L A K P L H W. L
    G L R P I V N N D Y V V G A R T F R R Z K R A Z R L T S R V K A L F S V L N Y B
   D A L T E V : A S I I K P Q N T Y C V A R Y A V
   CEAGGGGATECCGCAGGGCTCCATCCTCTCCAGGCTGTCTCCAGCCTGTGCTAGCGCAACAACAAGCTGTTTGCGGGGATTCCGCGGACGGCTGCTCCTGCGTTTTGGTGGA
    Q G I F Q G S I L S T L L C S L C Y G D M Z N X L F A G I R R D G L L R L V D
  TGATTTCTTGTTGGTGACACCTCACCTCACCCCACGACGACGACGCCTCGCCCGAGGTGCCCTGAGTATCGCCGGGTGAACTTGCCGAAGACAGTGGTGAACTTCCCC
  TGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGATGCCGGCCCACGGCCTATTCCCCTGGTGCGGCTGCTGCTGGATACCCGGACCCTGGAGGTGCAGAGCGACTACTCCAG
V E D E A L G G T A P V Q M P A H G L P P N C G L L L D T R T L E V Q S D Y S S
  CTATGCCCGGACCTCCATCAGAGCCAGTCTCAACCGCGGCTTCAACGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGGGGTCTTGCGGATGTTCACAGCCTGTTTCTGGA
    Y A R T S I R A S L T ? N R G P K A G R N M R R K L P G V L R L K C H S L P L D
TITGCAGGTGAACAGGCTCCAGACGGTGTGCACCAACATCTACAAGATCCTCCTGCTGCAGGCGTACAGGTTTCAGGCATGTGTGCTGCAGCTCCCATTTCATCAGCAAGTTTGGAAGAA
 CCGAAGAAAACATTTCTGTCGTGACTCCTGCGGTGCTTGGGTC
                                                                                          EENILVVTPAVLGS
 GGGACAGCCAGAGATGGAGCCAGCCGGCCAGACCGTCGGGTGTGGGCAGCTTTCCGGTGTGTCTCCTGGGAGGGGAGTTGGGCCTGGGACTGCCCTCAGCCTCTGTTTTCCCCCCAG
```